

**PERPENDICULAR RECORDING AND READ HEAD ASSEMBLY WITH  
IN SITU STAND ALONE STABILIZER FOR A MAGNETIC  
MEDIUM UNDERLAYER**

5

**ABSTRACT OF THE DISCLOSURE**

A data storage apparatus includes a magnetic medium having a top recording layer of hard magnetic material for perpendicularly storing magnetic data and a bottom underlayer of soft magnetic material, a read head for reading magnetic data from a recorded portion of the recording layer, a stabilizer for magnetically stabilizing a portion of the underlayer directly below the recorded portion simultaneously while the read head is reading magnetic data from the recorded portion and the read head and the stabilizer being separate structures.